U.S. DEPARTMENT OF THE INTERIOR
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Prepared in cooperation with the
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

WATER-RESOURCES INVESTIGATIONS
REPORT 92-4112 (SHEET 2 OF 2)
EVANGELINE EQUIVALENT AQUIFER SYSTEM--WATER-LEVEL CHANGES

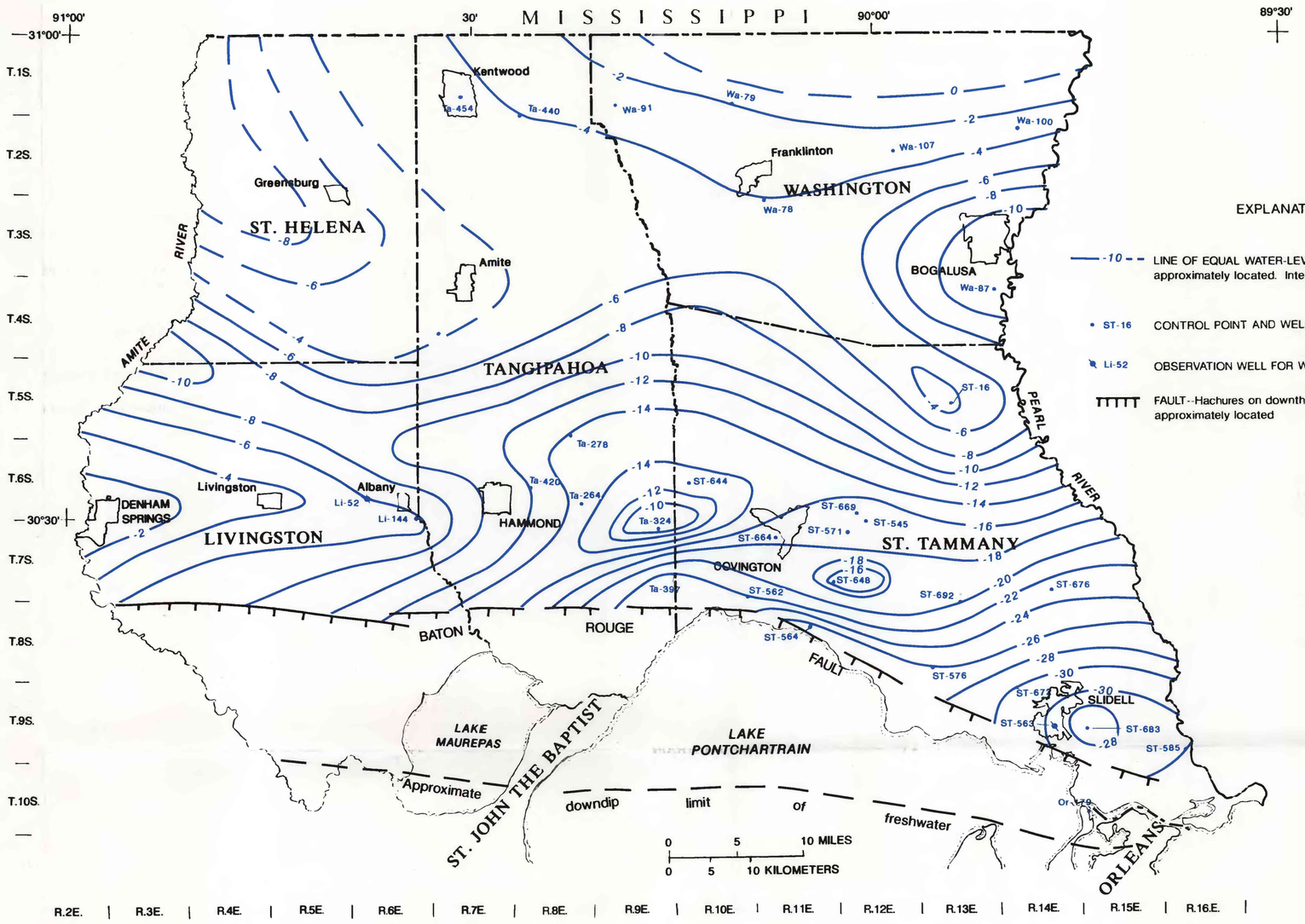


Figure 3.--Water-level changes in the Evangeline equivalent/southeast Louisiana aquifer system, 1974-90.

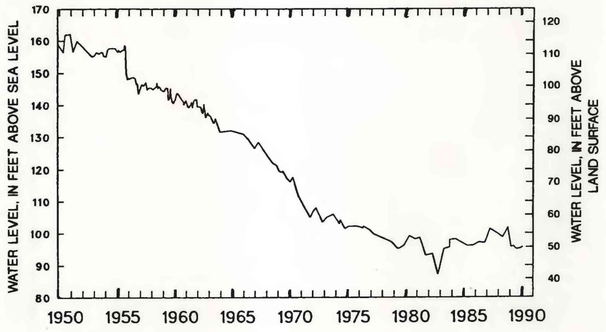


Figure 4.--Water level in well Li-52 (Livingston Parish).

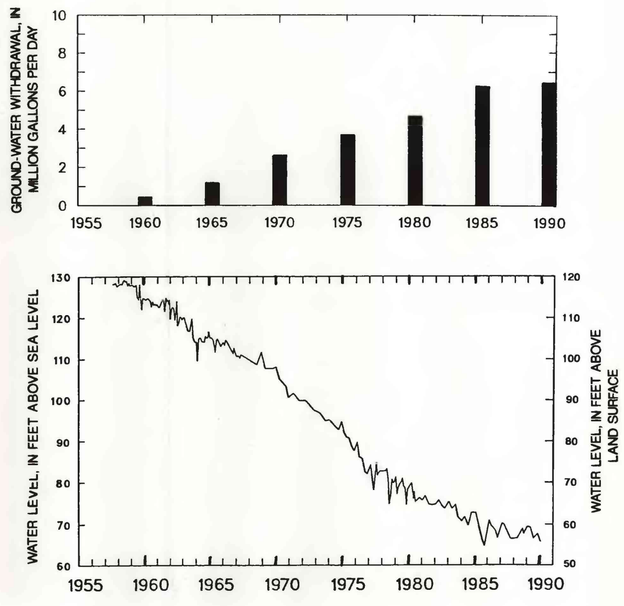


Figure 5.--Water level in well ST-563 (St. Tammany Parish) and ground-water withdrawal from the Evangeline equivalent/ southeast Louisiana aquifer system in the Slidell area.

## WATER-LEVEL CHANGES

The general trend of water-levels within the Evangeline equivalent aquifer system in the Florida Parishes is shown in figures 3-5. Figure 3 indicates the water-level changes in the aquifer system between 1974 and 1990. Figures 4 and 5 illustrate water-level trends in specific areas for an extended period.

The water-level change map (fig. 3) was constructed by calculating the difference between water levels measured in 1974 and 1990. Lines of equal water-level change were then plotted.

Water-level changes in the aquifer system are both regional and local in nature. Water-level changes in the aquifer system during the period 1974-90 ranged from no change in the recharge area near Mississippi to a decline of 30 ft at Slidell in St. Tammany Parish. The primary influence on water levels in the area has been pumping from the aquifer system in the populated areas north of Lake Pontchartrain and in the Baton Rouge area. Locally, however, water levels also have been affected by pumping for municipal and industrial supply in other areas.

Water levels in the aquifer system indicate a declining trend since the early 1950's (figs. 4 and 5); however, the hydrograph for well Li-52 (fig. 4) and figure 3 show that water levels in the western part of the area have stabilized somewhat during the past 10 years. This is due primarily to decreased pumping from equivalent (or hydraulically connected) aquifers in the Baton Rouge area (Lurry, 1987, p. 6-7).

Since 1974, water levels in the aquifer system have had a greater decline in the area just north of Lake Pontchartrain than in the extreme northern part of the study area, as shown in figure 3. This is due primarily to pumping in and around the towns of Hammond, Covington, and Slidell. The water level in well ST-563 (fig. 5) in Slidell indicates that the rate of decline was greatest in the 1970's and that the rate decreased considerably from 1985 to 1990.

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# LOUISIANA GROUND-WATER MAP NO. 5
# POTENTIOMETRIC SURFACE, 1990, AND WATER-LEVEL CHANGES, 1974-90, OF THE EVANGELINE EQUIVALENT/SOUTHEAST LOUISIANA AQUIFER SYSTEM


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